

We claim:

1. A method of mass producing double-sided optical discs, said discs having one or more data layers on each side, comprising:
 - providing data from a controller to a master producing process;
 - producing with the process master discs, including a set of master discs for the layers of one side and second set of master discs for the layers of the other side, the first set of master discs having data arranged along a first spiral, and the second set of master discs having data arranged along a second spiral, said first and second spirals being mirror images of each other; and
 - using said master discs to form said double-sided optical discs.
2. The method of claim 1 wherein the step of producing said master discs includes forming on said discs special areas defining rotation direction indicia for the discs to be mass produced.
3. The method of claim 2 wherein one of said special areas includes data disposed in a third spiral opposite the direction of the first spiral, said one special area being formed on at least one of the two master discs of said first set.
4. The method of claim 1 wherein the data includes a first set of segments for a first side and a second set of segments for a second side, and wherein said step of producing said master discs includes synchronizing the segments to corresponding

zones on the master discs such that corresponding segments for said first and second sides are produced on corresponding zones of the master discs.

5. The method of claim 4 wherein the corresponding zones on the master discs are selected such that the mass produced discs have approximately equal playing speeds for the corresponding data zones.

6. The method of claim 1 wherein at least one side of the discs has only a single data layer and one of said sets includes only a single master disc for producing said single data layer.

7. The method of claim 1 wherein at least one of said sets includes at least two master discs.

8. The method of claim 1 wherein said data includes program data and disc characteristic information, said disc characteristic information including information related to the manner in which the discs are to be played.

9. The method of claim 1 wherein said master discs are arranged to form a main section on the discs, said main section being formatted to accept data, and another section with disc characteristic information defining a manner in which discs are played.

10. A system for mass producing optical discs comprising:

a controller transmitting data;

a master producing process receiving the data and generating a first and a second pair of master discs, the first pair of master discs having data disposed along a first spiral and the second pair of master discs having data disposed along a second spiral, said first and second spirals being mirror images of each other; and

a station using said four master discs to make said double-sided optical discs.

11. The system of claim 10 wherein the first pair of master discs includes an inner and an outer master disc for the first side and the second pair of master discs includes an inner and an outer master disc for the second side.

12. The system of claim 10 wherein said data includes first and second data segments for the first and second sides of the mass produced optical discs and the controller synchronizes the first and second data segments so that they are formed on corresponding zones of said first and second sides.

13. The system of claim 12 wherein the corresponding zones of said first and second sides have approximately the same angular rate when the disc is played.

14. A system for mass producing optical discs comprising:

a controller transmitting data;

a master producing process receiving the data and generating a first and a second set of master discs, the first set of master discs having data disposed along a first spiral and the second pair of master discs having data disposed along a second spiral, said first and second spirals being mirror images of each other; and

a station using said sets of master discs to mold said double-sided optical discs.

15. The system of claim 14 wherein at least one of said sets of master discs includes only one master disc.

16. The system of claim 14 wherein at least one of said sets of master discs includes at least two master discs.